

# p-BMAL1:p-CLOCK, NPAS2 binds AVP gene

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01/05/2024

## Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

## Literature references

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- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

This document contains 1 reaction ([see Table of Contents](#))

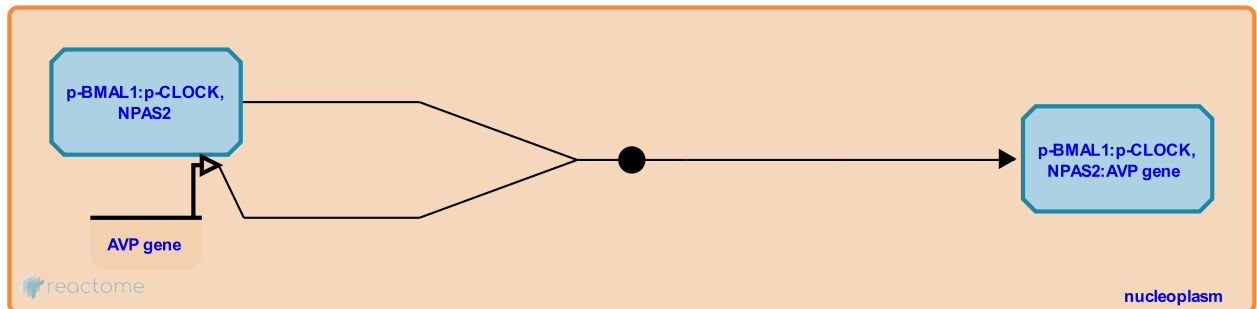
## p-BMAL1:p-CLOCK,NPAS2 binds AVP gene ↗

**Stable identifier:** R-HSA-5663165

**Type:** binding

**Compartments:** nucleoplasm

**Inferred from:** p-Bmal1:p-Clock,Npas2 binds Avp gene (Mus musculus)



As inferred from mouse, BMAL1:CLOCK (ARNTL:CLOCK) heterodimers bind an E-box enhancer in the AVP promoter and activate transcription of AVP.

### Literature references

Brewer, M., Muñoz, E., Baler, R. (2002). Circadian Transcription. Thinking outside the E-Box. *J Biol Chem*, 277, 36009-17. ↗

### Editions

2009-05-27	Reviewed	D'Eustachio, P.
2010-06-23	Reviewed	Hirota, T., Kay, SA., Delaunay, F., Albrecht, U.
2015-01-15	Authored, Edited	May, B.